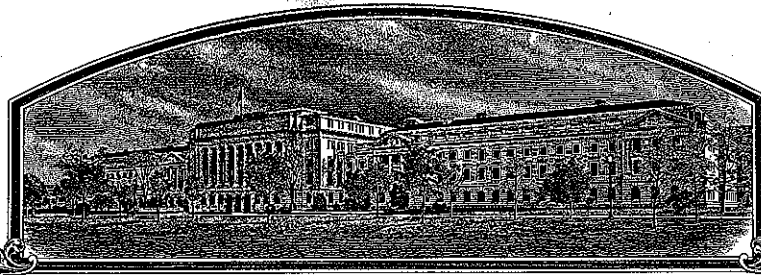


No.

200500218



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pan American Seed, a division of Ball Horticultural Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

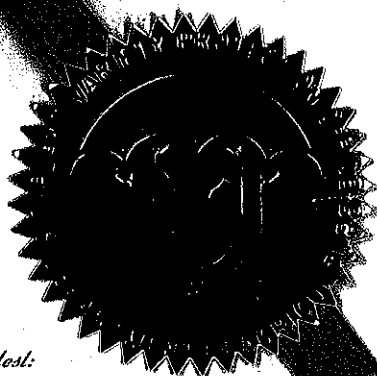
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

VINCA

'Pacifica Rose Halo'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of January, in the year two thousand and seven.

Attest:



[Signature]

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

| 1. NAME OF OWNER PanAmerican Seed, a division of Ball Horticultural Company | | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Pacifica Halo Rose C0816D | | 3. VARIETY NAME 'Pacifica Rose Halo' | | | | | | | | | | | |
|---|------------------------------|---|--|---|--|--|------------------------------|-------------|--------------|--------------------|--|-------------|--|----------------|--|
| 4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 622 Town Road West Chicago, IL 60185 USA | | 5. TELEPHONE (include area code) (630) 231-3600 | | <table border="1"> <tr> <th colspan="2">FOR OFFICIAL USE ONLY</th> </tr> <tr> <td colspan="2">PVPO NUMBER</td> </tr> <tr> <td colspan="2">2005 00218</td> </tr> <tr> <td colspan="2">FILING DATE</td> </tr> <tr> <td colspan="2">April 20, 2005</td> </tr> </table> | | FOR OFFICIAL USE ONLY | | PVPO NUMBER | | 2005 00218 | | FILING DATE | | April 20, 2005 | |
| FOR OFFICIAL USE ONLY | | | | | | | | | | | | | | | |
| PVPO NUMBER | | | | | | | | | | | | | | | |
| 2005 00218 | | | | | | | | | | | | | | | |
| FILING DATE | | | | | | | | | | | | | | | |
| April 20, 2005 | | | | | | | | | | | | | | | |
| 6. FAX (include area code) (630) 231-2590 | | 7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation (Ball Horticultural) | | 8. IF INCORPORATED, GIVE STATE OF INCORPORATION IL | | | | | | | | | | | |
| 9. DATE OF INCORPORATION July 27, 1995 | | 10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Audrey Charles 622 Town Road West Chicago, IL 60185 USA | | <table border="1"> <tr> <td rowspan="4">F E E S R E C E I V E D</td> <td>FILING AND EXAMINATION FEES:</td> </tr> <tr> <td>\$ 3652.00</td> </tr> <tr> <td>DATE 4/20/05</td> </tr> <tr> <td>CERTIFICATION FEE:</td> </tr> <tr> <td></td> <td>\$ 768.00</td> </tr> <tr> <td></td> <td>DATE 12/12/06</td> </tr> </table> | | F E E S R E C E I V E D | FILING AND EXAMINATION FEES: | \$ 3652.00 | DATE 4/20/05 | CERTIFICATION FEE: | | \$ 768.00 | | DATE 12/12/06 | |
| F E E S R E C E I V E D | FILING AND EXAMINATION FEES: | | | | | | | | | | | | | | |
| | \$ 3652.00 | | | | | | | | | | | | | | |
| | DATE 4/20/05 | | | | | | | | | | | | | | |
| | CERTIFICATION FEE: | | | | | | | | | | | | | | |
| | \$ 768.00 | | | | | | | | | | | | | | |
| | DATE 12/12/06 | | | | | | | | | | | | | | |
| 11. TELEPHONE (include area code) (630) 588-3118 | | 12. FAX (include area code) (630) 231-2590 | | 13. E-MAIL acharles@ballhelix.com | | | | | | | | | | | |
| 14. CROP KIND (Common Name) vinca | | 16. FAMILY NAME (Botanical) Apocynaceae | | 18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION. | | | | | | | | | | | |
| 15. GENUS AND SPECIES NAME OF CROP Catharanthus roseus X C longifolius | | 17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | 20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23) | | | | | | | | | | | |
| 19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office) | | 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.) | | 23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.) | | | | | | | | | | | |
| 24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.) | | | | | | | | | | | | | | | |

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

| | | | |
|---|---------------------|-----------------------------|------|
| SIGNATURE OF OWNER <i>Audrey Charles</i> | | SIGNATURE OF OWNER | |
| NAME (Please print or type) Audrey Charles | | NAME (Please print or type) | |
| CAPACITY OR TITLE Patent Agent | DATE 4/19/05 | CAPACITY OR TITLE | DATE |

(See reverse for instructions and information collection burden statement)

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

EXHIBIT A*Origin and Breeding History of the Variety 'Pacifica Rose Halo'*

'Pacifica Rose Halo' was developed using the pedigree breeding system. The original developmental cross was made using selections which were derived from a cross between commercial varieties 'Pacifica Pink' and 'Pacifica Punch.' Rose colored selections resulting from this cross were then crossed, in the spring of 1998, with the Vinca species *Catharanthus longifolius*.

The species *Catharanthus longifolius* was originally obtained from the University of Connecticut in 1992 where it was designated as *Catharanthus longifolius* (1) selection 3. This species material was maintained by massing plants to maintain the species germplasm. This material consisted of a segregating population, containing both cream and lavender flowers which contained large white centers. The habit of this species is tall, poorly branched and is late flowering when compared with commercial Vinca varieties.

In the fall of 1998, several F1 plants were pollinated and the seed was massed to produce F2 seed. In the spring of 1999 single plant selections were made in the F2 population and self pollinated to produce F3 families. The F2 plants were selected based on a phenotype having a well basal branching habit, early flowering plants, and large flowers containing large white centers.

Several F3 families were selected in the fall of 1999 which were most uniform for the above characters with the additional selection criteria of rose colored flowers. All the progeny were advanced by single plant selections which were self pollinated.

Subsequent F4 to F6 generations were also advanced using self pollinated single plant selections while continuing to select families with the most uniform previously described characters.

One of the F6 family designated as Pacifica Halo Rose C0816D, was selected and 30 plants were sib pollinated to produce a stock seed increase. The seed produced from this population was used for the first year of production in 2002. Pacifica Halo Rose C0816D was later designated 'Pacifica Rose Halo'.

No variants or off types were observed in either the stock seed increase generation or the subsequent crop.

'Pacifica Rose Halo' is stable and uniform after two generations of seed increase which included the stock seed increase and the first commercial crop.

EXHIBIT B*Statement of Distinctness of the Variety 'Pacifica Rose Halo'*

'Pacifica Rose Halo' is most readily distinguished from 'Stardust Rose' which is the most similar commercial variety available, by flower color, and flower size (diameter).

The flower color of 'Pacifica Rose Halo' is a deep rose (RHS Red-Purple 67B) while that of 'Stardust Rose' is a medium pink (RHS Red-Purple 68A).

The flower diameter of 'Pacifica Rose Halo' compared to 'Stardust Rose' is shown in Table 1 below. Trials were conducted in the Summer 2003 in the field and in the Summer 2004 in the greenhouse. For analysis, ten flowers were measured from ten plants of each variety. In both trials, the flower diameter of 'Pacifica Rose Halo' was significantly larger than the comparison 'Stardust Rose'.

Table 1: Differences between flower diameter (mm) between 'Pacifica Rose Halo' and 'Stardust Rose' grown during Summer Field 2003 and Summer Greenhouse 2004.

| Trial | 'Pacifica Rose Halo' Average Flower Diameter (mm) | 'Stardust Rose' Average Flower Diameter (mm) | Sample Size Each Variety | t Critical $\alpha=.05$ | t Statistic | P Value |
|------------------------------|--|---|-----------------------------------|-------------------------------|----------------|----------|
| Summer Field 2003 | 56.7 +/- 1.7 | 43.5 +/- 1.6 | 100 | 2.0 | 56.1 | 1.7E-123 |
| Summer Greenhouse 2004 | 56.8 +/- 1.1 | 46.6 +/- 1.3 | 100 | 2.0 | 60.1 | 3.8E-129 |

EXHIBIT B
Statement of Distinctness
Vinca 'Pacifica Rose Halo'

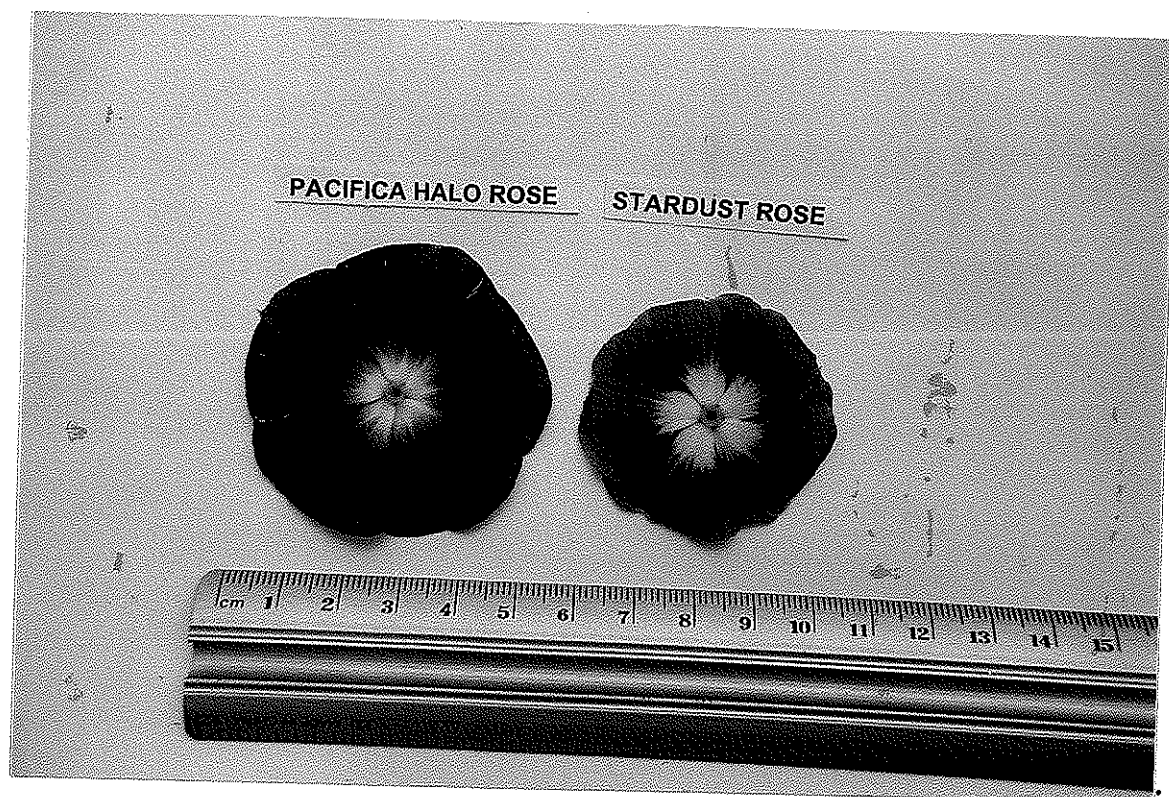


Fig 1. Vinca 'Pacifica Halo Rose and 'Stardust Rose'
The flower color of 'Pacifica Rose Halo' is a deep rose (RHS Red-Purple 67B) while that of 'Stardust Rose' is a medium pink (RHS Red-Purple 68A).

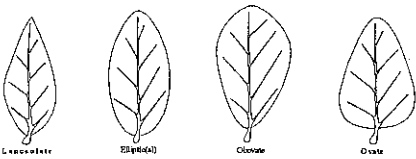
United States Department of Agriculture, Agricultural Marketing Service
Science and Technology Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
VINCA (*Catharanthus* spp.)

| | | |
|---|--|---|
| Name of Applicant(s) PanAmerican Seed | Temporary Designation Pacifica Halo Rose C0816D | Variety Name 'Pacifica Rose Halo' |
| Address (Street & No., or R.F.D. No., City, State, Zip Code and Country) 622 Town Road West Chicago, IL 60185 | | FOR OFFICIAL USE ONLY PVPO Number 200500218 |

Place the appropriate number that describes the varietal characters typical of this variety in the spaces below. Right justify whole numbers by adding leading zeros if necessary. The variety that you choose for comparison should be the most similar one in terms of background and maturity. The comparison variety used should be grown in field trials **with** the application variety for 2-3 location/years (environments) **in the region and season of best adaptability**. At least one year of trials should be conducted within the United States of America. In general, measurements of quantitative traits should be taken on 15-25 randomly selected plants or plant parts to obtain averages and statistics that describe a typical field of the variety. Designate test location(s):

| | |
|---|--|
| <p>1. OVERALL PLANT HABIT (at flowering stage):</p> <p>Data Collection Site <u>Guadalupe, CA USA</u></p> <p><u>2</u> Species: 1=roseus 2=Other <u>C. roseus x C. longifolius</u></p> <p><u>2</u> Ploidy: 1=Haploid 2=Diploid 3=Triploid 4=Tetraploid</p> <p><u>1</u> Life Cycle: 1=Annual 2=Biennial 3=Perennial</p> <p><u>1</u> Growth Habit: 1=Determinate 2=Semi-determinate 3=Indeterminate</p> <p><u>1</u> Growth Form: 1=Upright 2=Semi-prostrate 3=Prostrate</p> <p><u>1</u> Flowering: 1=Very Early 2=Early 3=Mid Season 4=Late 5=Continuous</p> <p><u>0 6 0</u> Days from Planting to First Flowering</p> <p><u>1 8 0</u> Length of Flowering Season in Days</p> <p><u>0 3 3 . 0</u> cm Plant Height at Maturity</p> <p><u>0 3 8 . 0</u> cm Plant Width at Maturity</p> <p><u>3</u> Plant Height Class: 1=Extra Dwarf 2=Dwarf 3=Semi-dwarf 4=Tall</p> <p><u>2</u> Plant Width Class: 1=Compact 2=Semi-compact 3=Spreading/Lax</p> | <p>Comparison Variety Name <u>Stardust Rose</u></p> <p><u>2</u> Species <u>C. roseus x C. longifolius</u></p> <p><u>2</u> Ploidy</p> <p><u>1</u> Life Cycle</p> <p><u>1</u> Growth Habit</p> <p><u>1</u> Growth Form</p> <p><u>2</u> Flowering season</p> <p><u>0 7 0</u> Days to First Flowering</p> <p><u>1 8 0</u> Days - Flowering Season Length</p> <p><u>0 2 5 . 0</u> cm Plant Height</p> <p><u>0 2 5 . 0</u> cm Plant Width</p> <p><u>2</u> Plant Height Class</p> <p><u>2</u> Plant Width Class</p> |
| <p>2. STEM:</p> <p><u>1</u> Profile: 1=Straight 2=Zig-Zag</p> <p><u>3</u> Branching Pattern: 1=Single Stem 2=Few Branches 3=Many Branches</p> <p><u>3 2 . 0</u> cm Stem Length from base of stem to terminal flower</p> <p><u>0 1</u> Number of Internodes below First Branch</p> <p><u>0 6</u> Number of First Order Branches (from main stem)</p> <p><u>1</u> Stem Anthocyanin: 1=Absent 2=Along Veins only 3=Solid Coloration</p> | <p><u>1</u> Profile</p> <p><u>3</u> Branching Pattern</p> <p><u>2 4 . 0</u> cm Stem Length (total)</p> <p><u>0 1</u> Number of Internodes below First Branch</p> <p><u>0 6</u> No. of First Order Branches (from main stem)</p> <p><u>1</u> Stem Anthocyanin</p> |
| Application Variety Data | Comparison Variety Data |

| Application Variety Data | Page 2 | Comparison Variety Data |
|--|---|-------------------------|
| 3. FOLIAGE: <u>1</u> Leaf Type: 1=Simple 2=Compound <u>1</u> Leaf Margin: 1=Entire 2=Serrate 3=Other <u>3</u> Leaf Odor: 1=None 2=Mild 3=Strong <u>3</u> Petiole Anthocyanin: 1=Absent 2=Mild 3=Strong <u>2</u> Leaf Shape: 1=Lanceolate 2=Elliptic 3=Obovate 4=Ovate <u>0</u> <u>2</u> <u>7</u> . <u>0</u> mm Leaf Width <u>0</u> <u>7</u> <u>5</u> . <u>0</u> mm Leaf Length  LEAF DORSAL SIDE: <u>2</u> Leaf Color: 1=Light Green 2=Medium Green 3=Dark Green 4=Other (describe) Color Chart Name <u>RHS 137A</u> Color Chart Reading <u>1</u> Pubescence: 1=Absent 2=Light 3=Heavy <u>2</u> Luster: 1=Dull 2=Shiny LEAF VENTRAL SIDE: <u>2</u> Leaf Color: 1=Light Green 2=Medium Green 3=Dark Green 4=Other (describe) Color Chart Name <u>RHS 138A</u> Color Chart Reading <u>1</u> Pubescence: 1=Absent 2=Light 3=Heavy <u>1</u> Luster: 1=Dull 2=Shiny | <u>1</u> Leaf Type <u>1</u> Leaf Margin <u>3</u> Leaf Odor <u>1</u> Petiole Anthocyanin <u>2</u> Leaf Shape <u>0</u> <u>2</u> <u>0</u> . <u>0</u> mm Leaf Width <u>0</u> <u>5</u> <u>0</u> . <u>0</u> mm Leaf Length LEAF DORSAL SIDE: <u>2</u> Leaf Color <u>RHS 137B</u> Color Chart Reading <u>1</u> Pubescence <u>2</u> Luster LEAF VENTRAL SIDE: <u>2</u> Leaf Color <u>RHS 139B</u> Color Chart Reading <u>1</u> Pubescence <u>2</u> Luster | |
| 4. FLOWER: <u>1</u> Type: 1=Single 2=Semi-Double 3=Double <u>1</u> Form: 1=Flat 2=Cupped 3=Other <u>2</u> Shape: 1=Round (petals overlap) 2=Intermediate 3=Star (petals gapped) <u>2</u> Flower Odor: 1=None 2=Mild 3=Strong <u>1</u> Pedicel Anthocyanin: 1=Absent 2=Faint 3=Strong <u>6</u> <u>6</u> Number Flowers per Plant <u>0</u> <u>5</u> <u>6</u> . <u>8</u> mm Flower Diameter <u>0</u> <u>4</u> . <u>0</u> mm Orifice Size (including the opening of the corolla tube) <u>0</u> <u>5</u> . <u>0</u> mm Ring Width (from outside orifice to edge of color band) <u>0</u> <u>2</u> <u>2</u> . <u>0</u> mm Petal Width (at widest point) <u>0</u> <u>2</u> <u>5</u> . <u>0</u> mm Petal Length (from ring to outer edge) | <u>1</u> Type <u>1</u> Form <u>2</u> Shape <u>2</u> Flower Odor <u>1</u> Pedicel Anthocyanin <u>2</u> <u>8</u> Number Flowers per Plant <u>0</u> <u>4</u> <u>5</u> . <u>5</u> mm Flower Diameter <u>0</u> <u>3</u> . <u>0</u> mm Orifice Size <u>0</u> <u>5</u> . <u>0</u> mm Ring Width <u>0</u> <u>2</u> <u>0</u> . <u>0</u> mm Petal Width <u>0</u> <u>1</u> <u>5</u> . <u>0</u> mm Petal Length | |
| Application Variety Data | Comparison Variety Data | |

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| Application Variety Data | | | | Page 3 | | | | Comparison Variety Data | | | |
|--|-------------------|------------------|------------------|---------------|-------------|------------|------------|--|--|--|--|
| 5. FLOWER COLORS : (Note: Common Color Charts: RHS=Royal Horticultural Society Colour Chart; Munsell=Munsell Book of Color) | | | | | | | | | | | |
| | Color Verbal Name | Color Chart Code | Color Chart Name | | Color Name | Chart Code | Chart Name | | | | |
| EXAMPLE | Light Blue | 106C | RHS | | | | | | | | |
| Petal Color | Deep rose | 67B | RHS | Petal Color | Medium pink | 68A | RHS | | | | |
| Ring Color | White | 155B | RHS | Ring Color | White | 155B | RHS | | | | |
| Orifice Color | Yellow | 4C | RHS | Orifice Color | Yellow | 4C | RHS | | | | |
| Other Color (describe location or placement) | | | | Other | | | | | | | |
| 6. SEEDS (Measure mature (dry) seeds): <u>3</u> Seed Set : 1=None 2=Poor 3=Fair 4=Good 5=Excellent <u>4</u> Seed Coat Color: 1=White 2=Tan 3=Brown 4=Black 5=Other _____ <u>1</u> <u>6</u> <u>0</u> <u>0</u> . <u>0</u> mg Weight per 1000 Seeds | | | | | | | | <u>3</u> Seed Set <u>4</u> Seed Coat Color <u>1</u> <u>2</u> <u>5</u> <u>3</u> . <u>0</u> mg Seed Weight | | | |
| 7. RESISTANCE: Test as many disease and insect reactions as possible before applying for protection. Tests for disease and insect reactions should include a resistant check and a susceptible check for each disease or insect being tested. When using disease resistance to describe novelty, information on these checks should be included in the novelty statement in support of the novelty claim. Rate the application variety and the comparison variety on a scale of 1 (most susceptible) to 9 (most resistant) for each disease or insect reaction being reported. Give the scientific and common names of each disease/insect for completeness, and the race or strain, if known. (Rate from 1 (most susceptible) to 9 (most resistant)): | | | | | | | | | | | |
| Rating Disease/Insect Name (give race or strain, if known) ____ N/A _____ _____ _____ _____ _____ _____ | | | | | | | | Rating Disease/Insect Name ____ N/A _____ _____ _____ _____ _____ _____ | | | |
| Application Variety Data | | | | | | | | Comparison Variety Data | | | |

Application Variety Data

Comparison Variety Data

8. Attach ONE photographic print of the application variety and the comparison variety described above, indicating variety. This photograph should show flower heads of each variety at a magnification sufficient to identify most given above. (Additional photographs in support of this application may be supplied as part of the Exhibits B or D.)



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

| | | |
|---|---|--|
| 1. NAME OF APPLICANT(S) PanAmerican Seed, a division of Ball Horticultural Company | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Pacifica Halo Rose C0816D | 3. VARIETY NAME 'Pacifica Rose Halo' |
| 4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 622 Town Road West Chicago, IL 60185 USA | 5. TELEPHONE (Include area code) (630) 231-3600 | 6. FAX (Include area code) (630) 231-2590 |
| 7. PVPO NUMBER 200500218 | | |

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES☐ NO

10. Is the applicant the original owner?

☒ YES☐ NOIf no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

The breeding of variety 'Pacifica Rose Halo' was conducted in Guadalupe, California at a PanAmerican Seed facility. Other than greenhouse technical staff, the breeder, Denis Flaschenriem, worked alone to develop this variety. He was and currently is an employee of PanAmerican Seed. By agreement between the employee and PanAmerican Seed, all rights and ownership to the variety resides with PanAmerican Seed.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

| | | |
|--|---|---|
| NAME OF OWNER (S) <i>American</i> PanAmerican Seed, a division of Ball Horticultural Company | ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 622 Town Road West Chicago, IL 60185 USA | TEMPORARY OR EXPERIMENTAL DESIGNATION Pacifica Halo Rose C0816D |
| NAME OF OWNER REPRESENTATIVE (S) Audrey Charles | ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 622 Town Road West Chicago, IL 60185 USA | VARIETY NAME 'Pacifica Rose Halo' FOR OFFICIAL USE ONLY PVPO NUMBER 200500218 |

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Audrey Charles
Signature

4/19/05
Date